

REMARKS

In view of the above amendments and following remarks, reconsideration and further examination are requested.

Initially, with regard to references “AL”, “AM” and “AN” of the Information Disclosure Statement submitted January 31, 2005, not being considered by the Examiner, the Examiner’s attention is respectfully directed to MPEP 609.04(a)III. Specifically, this section expresses that the requirement for a concise explanation of relevance can be satisfied by submitting an English-language version of a search report of a foreign patent office, which search report indicates the degree of relevance found by the foreign office. Thus, it is respectfully submitted that the International Search Report provided as part of the Information Disclosure Statement satisfies the aforementioned requirement, whereby references “AL”, “AM” and “AN” should be considered by the Examiner.

The specification has been amended to address the objections noted by the Examiner in section 2, while also being further reviewed and revised to make editorial changes thereto and generally improve the form thereof, and a substitute specification and abstract are provided. No new matter has been added by the substitute specification and abstract.

The instant invention pertains to a system for transplant production, which is of a closed-type and includes an artificial light source, air conditioner and irrigation unit. Such a system for transplant production is generally known in the art, but suffers from drawbacks as expressed on pages 1-5 of the original specification. Applicants have addressed and resolved these drawbacks by providing a unique system for transplant production.

Specifically, with reference to Figs. 1-5, for example, the system comprises: a light shielding closed structure 1; an air conditioner 7 in the closed structure for controlling temperature and humidity of air in the closed structure; a box-shaped culturing module 3 within the closed structure; transplant production shelves 12 arranged vertically in the culturing module; a plug tray 40 on each of the production shelves; a sub-irrigation unit 30 capable of providing irrigation from a bottom of the plug tray; an artificial lighting unit 13 for irradiating light from

above to the plug tray; and a fan 15 associated with each of the shelves for sucking air from a front of this shelf and conveying the air toward a rear of the shelf so as to circulate the air within the closed structure.

By operating the fan associated with each transplant production shelf, air, whose temperature and humidity have been controlled by the air conditioner, is sucked from the front of each shelf and sent to the rear of the shelf so as to circulate the air in the closed structure. When this circulation flow passes through the transplant production shelves, the circulation flow is accompanied by water vapor evaporated from the irrigation units, culture media and plant seedlings, and also by heat discharged from the artificial lighting units. Thus, by controlling the temperature and humidity of the circulation flow using the air conditioner and continuously circulating the flow using the fans, it is possible to maintain an internal space of the closed structure at a temperature and humidity optimum for plant growth.

New claim 11 is believed to be representative of Applicants' inventive system.

Claims 1-4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hughes et al. in view of Martin, "Greenhouse Production of Gerbera Daisies", Bhatt, Nijssen et al. and JP '711; claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the aforementioned references and further in view of Carlson et al; and, claims 6-10 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. The indication of allowable subject matter is greatly appreciated; however, claims 6-10 have not been rewritten in independent form because former claim 1 and new claim 11 are believed to be allowable over the relied-upon references for the following reasons.

In rejecting claim 1, the Examiner recognized that Hughes et al. does not disclose the fans required by claim 1 (and claim 11), and thus relied upon the teachings of JP '711 for concluding that the provision of a fan on each shelf of Hughes et al. would have been obvious to one having ordinary skill in the art. It is respectfully submitted that one having ordinary skill in the art would not have looked to the teachings of JP '711 for guidance as to how Hughes et al. could be modified, since Hughes et al. and JP '711 are from non-analogous arts.

Specifically, Hughes et al. is concerned with production of green feed for livestock, whereas JP '711 is not concerned with plant growth of any kind but is rather concerned with maintaining cleanliness of products stocked on shelves. In this regard, in JP '711 a conventional clean stocker 1 is provided with a plurality of shelves, and fan filter units 3 are provided. Each fan filter unit comprises a fan 301 and a filter 302, and maintains cleanliness of products stocked on the shelves by sending air cleaned with the fan filter unit to the products. Thus, because JP '711 and Hughes et al. are from different fields of endeavor, and because Hughes et al. and JP '711 are not concerned with the same issues, one having ordinary skill in the art would not have found it obvious to combine their teachings. It is respectfully submitted that it is only through impermissible hindsight that the Examiner has determined that one would have found it obvious to combine the teachings of these references.

Indeed, the motivation given by the Examiner to provide fans in the apparatus of Hughes et al. is to "maintain a constant volume of air passing through the shelf". However, Hughes et al. states that air conditioning unit 15 functions to maintain atmospheric conditions substantially constant (column 3, lines 52-61). Thus, because Hughes et al. already includes structure (air conditioning unit 15) that maintains constant air flow conditions, one having ordinary skill in the art would not have found it obvious to include therein additional structure (fans) that could alter or disrupt these desired air flow conditions.

For this reason alone, claim 11 is not obvious from the teachings of Hughes et al. and JP '711.

Additionally, assuming *arguendo* that one having ordinary skill in the art would have found it obvious to combine the teachings of Hughes et al. and JP '711, it is respectfully submitted that the invention as recited in claim 11 would not result. In this regard, claim 11 recites that the fan is for **sucking air from said front face opening of said culturing module**. To the contrary, in JP '711 the fan filter units 3 blow air from a back of the shelves toward a front of the shelves. It is important that the fan filter units of JP '711 operate in such a manner because by doing so air that has just been filtered is blown across the stocked products, whereas if the fan filter units were to suck air across the products the air would not be filtered until after

having been drawn over the products, whereby there would be a greater chance of unclean air being drawn over the products which could adversely contaminate the products. Thus, modifying Hughes et al. in view of the teachings of JP '711 would not result in fans which suck air from a front portion of shelves, as required by claim 11. For this additional reason, claim 11 is not obvious from the teachings of Hughes et al. and JP '711.

None of the other references resolve the above deficiencies of Hughes et al. and JP '711, whereby claim 11 is not obvious over any of the references relied upon by the Examiner either taken alone or in combination.

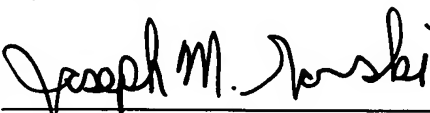
Additionally, new claims 12-21 and 30 are believed to be allowable in their own right because these claims recite physical and spatial relationships between the closed structure, air conditioner(s), fans and module(s), which are not taught or suggested by any of the relied-upon references.

In view of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicants' undersigned representative by telephone to resolve such issues.

Respectfully submitted,

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